

## **EE/CprE/SE 491 WEEKLY REPORT 2**

**9/10/2018 – 9/17/2018**

**Group number: 45**

**Project title: IoT environmental monitor**

**Client &/Advisor: Dr. Geiger**

**Team Members/Role: Tyler Fritz – Software Developer, Dong Xing – Hardware developer, Ahmed Abuhjar – Hardware Developer, Haoyue Ma – Hardware developer, Yuanzhe Wang – Hardware Developer**

- **Weekly Summary** *The overall objective of this week was to start making technical progress. We achieved this by acquiring the prototypes of the project from Dr. Geiger and spending a few hours getting basic programs to run on them. We've had two meetings focused on technical progress so far. The first meeting we got very confused, but the second meeting we went to Tim's office hours and made a nice amount of progress.*
  
- **Past week accomplishments**
  - Tyler Fritz
    - Spent 3 hours working with team getting last semester's components working. We're close to having them working, after which we'll be able to start writing code!
    - Worked on project schedule for the semester
    -
  - Ahmed Abuhajr
    - Worked on the homenode. Tried to verify if it design for the will home-node function properly by sending some commands using the codes (receive and transmit)
    - Figured out what parts we're missing for the project in order to order them
  - Dong Xing
    - Design and work with teammates about the project schedule through this semester.

- Design 3 possible methods of operational node protocol which could lower down the cost.
- Haoyue Ma
  - Work on project schedule for this semester.
  - Design and analysis the operational node methods.
  - Apply the materials that our team needed when build homenode.
- Yuanzhe Wang
  - Check errors when my teammates were connecting the hardware.
  - Ordered three Ardiunos from ETG office.
- **Pending issues**
  - There is little instruction as to how to configure the work of last semester's group. We need to work closely with Tim until we have a good grasp of how the system works.
  - We will keep debugging the home-node for the next week. We will have more than one arduino to verify that the signal is actually received and transmitted as we want it to be (following a certain path)
  - Although the radio signal transceiver was not verified yet if it was reliable, we will find a way to determine that next week.
  - Not sure which method of transmitting messages would be the best choice for this project. There are some potential risks for each method which might cost more once we encounter. It's hard to judge and estimate how much they are going to be.
  - Our group will use nodes with higher range which may cost more, but we may use the smaller amount at the same time.

- **Individual contributions**

| <b><u>NAME</u></b> | <b><u>Individual Contributions</u></b>   | <b><u>Hours this week</u></b> | <b><u>HOURS cumulative</u></b> |
|--------------------|--|-------------------------------|--------------------------------|
| Tyler Fritz        | Initial project setup, Project Planning, Dr. Geiger presentation   | 5                             | 9                              |
| Ahmed Abuhjar      | 4  | 4                             | 8                              |
| Haoyue Ma          | Meet with Tim, Project planning, Design and analysis operational node methods, Dr. Geiger's presentation | 4                             | 8                              |
| Dong Xing          | Design and analysis operational node (especially for home node) methods, Dr. Geiger's presentation       | 4                             | 7                              |
| Yuanzhe Wang       | Checked the connected errors. Ordered needed stuff from ETG office.                                      | 5                             | 8                              |

- **Plans for the upcoming week** (*Please describe duties for the upcoming week for each member. What is(are) the task(s)?, Who will contribute to it? Be as concise as possible.*)

- We will keep debugging the home-node for the next week. We will have more than one arduino to verify that the signal is actually received and transmitted as we want it to be (following a certain path)
  - Contributors: Tyler, Haoyue, Ahmed, Yuanzhe
- Although the radio signal transceiver was not verified yet if it was reliable, we will find a way to determine that next week.
  - Contributors: Dong, Yuanzhe, Tyler
- Start testing collecting and transferring data
  - Contributors: Haoyue, Dong ,Ahmed

**note: it's currently difficult to divide up tasks because we are blocked by the home node and leaf nodes not being set up. We are all working to remove this blockade.**

- **Summary of weekly advisor meeting**
  - We learned more about the goal of the project and cleared up a good deal of confusion across the group. We all have a fairly good understanding of what we're going to achieve and how now.